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in order to determine locations of particles on the surface; and

an optical arm, which is adapted to direct a beam of electromagnetic energy onto the surface of the substrate while the substrate is mounted on the chuck, causing the particles to be dislodged from the surface, ~~[the arm being movable, in cooperation with the movement of the chuck, in order to scan the beam over the surface]~~ wherein the chuck ^{and the arm are moved} ~~is~~ operative to position the substrate relative to the optical arm so as to cause the beam to impinge upon [substantially any point] the locations of the particles on the surface [from which the particles are to be removed] that are determined by the particle localization unit.

REMARKS

Claim 1 has been amended to incorporate certain limitations of claims 2 and 4, as well as additional aspects of the present invention that are described in the specification. The claim now recites an arrangement wherein a chuck is used to position a substrate for scanning by a particle localization unit, and the same chuck is used to position the substrate with respect to an optical arm so that a beam of energy is directed by the arm to impinge on particle locations determined by the localization unit.

The additional features recited by amended claim 1 are literally supported by the specification of the present patent application. As noted on page 12, lines 12-14, the optical arm of the present invention may be incorporated in an existing metrology tool, making use of a rotating chuck or X-Y stage that is already present in the system. An embodiment of this sort is shown in Fig. 5

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5, and is described on page 12, lines 15-27. It is noted specifically (lines 19-20) that the optical arm in this case may be either rotatable or fixed and (lines 25-27) that this configuration is useful in the context of particle detection tools, which commonly include an X-Y stage already. A method for performing inspection using this sort of particle removal unit simultaneously with a particle location process, as recited in amended claim 1, is described on page 17, lines 1-19.

The novel combination of amended claim 1 is neither disclosed nor suggested by the prior art. Although Vaught (U.S. 5,023,424, cited by the Examiner) describes the use of a particle detector in conjunction with a laser-based particle removal station, these two elements are clearly separate units. (See Fig. 1 and col. 6, lines 31-38.) The invention recited by amended claim 1 is advantageous in terms of conserving space in the semiconductor fab and reducing the time required to process each substrate. These advantages are enumerated in the above-mentioned passages of the specification.

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Respectfully submitted,